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EXAMINER
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1792	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Advisory Action

The Request for Reconsideration filed on April 1, 2008 under 37 CFR 1.116 in reply to the final rejection has been entered and considered but is not deemed to place the application in condition for allowance for the reasons of record set forth in the Final Office Action mailed on 10/01/2007.

Response to Arguments

Applicant's arguments filed April 1, 2008 have been fully considered but they are not persuasive.

(A) Applicants submit that the Final Rejection asserts: Obviously, if different types of filler-containing rubber powders or a doubled amount of rubber powder should be produced, two or more reactors in series (a reactor system) would be used, e.g., each reactor for each type of filler-containing rubber powder. On the contrary, because all material passing through reactors in series must pass through each of the reactors, one skilled in the art would not expect reactors in series to provide "at least two types of filler containing rubber powders" or a "doubled amount of rubber powder". In order to provide "at least two types of filler containing rubber powders" or a "doubled amount of rubber powder", the skilled artisan might use reactors in parallel, and not independent Claim l's reactors in series. Thus, the primary references in view of Sielcken fails to suggest the independent Claim 1 limitation that "the reactor system comprises two or more continuous stirred tank reactors in series". Jenczewski discloses a continuous process that can use at least three stirred tank reactors connected in series. Jenczewski at column 4, lines 28-30.

The Examiner agrees with Applicants that the Examiner's statement of different types of filler-containing rubber powders was incorrect because it contradicts claim 1 and the applied reference of Jenczewski. The Examiner withdraws the statement. However, the ground of rejection over combination of Smigerski et al in view of Sielcken et al and Jenczewski et al is correct.

(B) Applicants submit that although Jenczewski discloses a continuous process that can use at least three stirred tank reactors connected in series (column 4, lines 28-30), Jenczewski, however, has nothing in common with the above-identified application. Jenczewski describes the recovery of caprolactam from nylon 6 wastes.

The Examiner respectfully disagrees with this argument. Smigerski et al '522 fails to teach that a continuous process is carried out using a stirred tank reactor (CSTR) connected in series (Claim 1). However, Sielcken et al teaches that a *continuous* process can be carried out using a stirred tank reactor (CSTR) or a tubular reactor (See column 5, lines 61-65). It would

have been obvious to one of ordinary skill in the art at the time the invention was made to have carried out a continuous process of Smigerski et al '522 in a stirred tank reactor (CSTR) instead of a tubular reactor since Sielcken et al teach that a continuous process can be carried out using a CSTR or a tubular reactor.

Smigerski et al '522 in view of Sielcken et al fail to teach that two or more reactors connected in series (a reactor system) are used (Claim 1).

Jenczewski et al teaches that for a continuous process, a stirred tank reactor may be used, preferably at least three stirred tank reactors connected in series (See column 4, lines 28-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have carried out a continuous process of Smigerski et al '522 in view of Sielcken et al preferably in at least three stirred tank reactors connected in series, instead of one CSTR since Jenczewski et al teaches that for a continuous process, a stirred tank reactor may be used, but preferably at least three stirred tank reactors connected in series.

It is irrelevant whether Jenczewski describes the recovery of caprolactam from nylon 6 wastes, because if a process can be carried out continuously in one stirred tank reactor, it can be carried out in at least three stirred tank reactors connected in series.

(C) Applicants submit that the process of the present invention using continuous stirred tank reactors solves in a surprisingly simple manner a variety of problems associated with the tubular reactors of the cited prior art. Specification at page 4, lines 10-11.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Note that Smigerski et al '522 teaches tubular reactor. However, a *combination* of Smigerski et al in view of Sielcken et al and Jenczewski et al teaches claimed process using at least three stirred tank reactors connected in series. Therefore, the three stirred tank reactors connected in series of the combination of references would have the same advantages over tubular reactor as claimed invention.

(D) Applicants argue that the method of Smigerski-231 is fundamentally different than the process of independent Claim 1. According to Smigerski-231, the amount of carbon black filler is divided, and the second amount of carbon black is to be added to the base particles of powdered rubber after the end of *precipitation* (see Smigerski-23 at column 6, Examples 1 to

4). 3After passing through the usual viscosity increase, the precipitation was completed within approximately 10 seconds after adding the acid. With further stirring, a suspension of 157 g of water and 10 g of the aforementioned carbon black was metered in. Smigerski-231 at column 6, lines 31-36. Thus, the second addition of carbon black takes place only after precipitation of the powdered rubber. By this method the carbon black is not anchored in the peripheral shell, but instead it creates a kind of powdering effect. At first, these products are also free-flowing. However, over the long term the outer layer of carbon black is removed by friction, etc., and so the tackiness increases. Furthermore, in Smigerski-231 carbon black migrates from the interior of the particles to the peripheral zone due to removal of moisture. Consequently, these products are not reproducible with regards to the carbon black content, and over the long term they become tackier than the inventive products. Because Smigerski-231 fails to suggest the independent Claim 1 limitations of "continuously and simultaneously feeding an aqueous filler mixture comprising at least one filler, and an aqueous rubber emulsion or latex into a reactor system through separate feedlines to coagulate rubber on the surface of the filler and form a precipitation suspension of filled rubber granules", the claims are further patentably distinguishable over Smigerski- 231.

The Examiner respectfully disagrees with this argument.

First of all, claim 1 is open ended and, therefore, does not exclude addition of filler after the end of precipitation.

Second, it is noted that the features upon which applicant relies (i.e., limitations that *the carbon black is not anchored in the peripheral shell; the products are not reproducible with regards to the carbon black content, and over the long term they become tackier than the inventive products*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Third, Smigerski et al '231 teach that a filler suspension and rubber latex are mixed intimately in **propeller mixer** (claimed stirred reactor) (See column 4, lines 27-33). Smigerski et al '231 further teach that the process can be carried out either discontinuously in a stirred reactor (See column 4, lines 27-39) or continuously (See column 4, lines 50-51). Obviously, in a *continuous* process filler and rubber latex would be added through *separate* feedlines.

Thus, in contrast to Applicants argument, Smigerski et al '231 do suggest the independent Claim 1 limitations of "continuously and simultaneously feeding an aqueous filler mixture comprising at least one filler, and an aqueous rubber emulsion or latex into a reactor

system through separate feedlines to coagulate rubber on the surface of the filler and form a precipitation suspension of filled rubber granules".

Rejection under 35 U.S.C. §112, second paragraph

Claims 1-17 and 19-22 are rejected under 35 U.S.C. §112, second paragraph, because assertedly the recitation "two or more continuous stirred tank reactors in series" is indefinite. However, the term "continuous stirred tank reactor" is well known in the art. See, e.g., Chemical Engineer's Handbook, 5th edition, pages 4-20 to 4-26 (esp. Fig. 4-3)(copy attached). Thus, the recitation "two or more continuous stirred tank reactors in series" is not indefinite.

The Examiner maintains the rejection because In contrast to Applicants statement, the Examiner was unable to locate the term "continuous stirred tank reactor" in the Chemical Engineer's Handbook, 5th edition, pages 4-20 to 4-26. Instead, the Chemical Engineer's Handbook, 5th edition, recites, "In a continuous operation, several stirred-tank reactors may be connected in series (Fig. 4-3c). See Page 4-21, column 2, lines 4-5.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-142323. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy, Ph.D.
Primary Examiner
Art Unit 1792

April 9, 2008

/Elena Tsoy /

Primary Examiner, Art Unit 1792